



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2013-0073]

Compliance With Information Request, Flooding Hazard Reevaluation

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft Japan Lessons-Learned Project Directorate guidance; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing draft Japan Lessons-Learned Project Directorate Interim Staff Guidance (JLD-ISG), JLD-ISG-2013-01, "Guidance for Estimating Flooding Hazards due to Dam Failure." This draft JLD-ISG provides guidance acceptable to the NRC staff for reevaluating flooding hazards due to dam failure for the purpose of responding to enclosure 2 of a March 12, 2012, information request.

DATES: Comments must be filed no later than **[INSERT DATE: 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered, if it is practical to do so, but the NRC staff is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2013-0073**. Address questions about NRC dockets to Carol Gallagher;

telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

- **Fax comments to:** RADB at 301-492-3446.

For additional direction on accessing information and submitting comments, see “Accessing Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Mr. G. Edward Miller, Japan Lessons-Learned Project Directorate, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-2481; e-mail: Ed.Miller@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Accessing Information and Submitting Comments

A. Accessing Information

Please refer to Docket ID **NRC-2013-0073** when contacting the NRC about the availability of information regarding this document. You may access information related to this document, which the NRC possesses and is publicly available, by any of the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2013-0073**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may access publicly-available documents online in the NRC Library at

<http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdresource@nrc.gov. The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. The draft JLD-ISG-2013-01 is available under ADAMS Accession No. ML13057A863.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

- **NRC's Interim Staff Guidance Web site:** JLD-ISG documents are also available online under the "Japan Lessons Learned" heading at <http://www.nrc.gov/reading-rm/doc-collections/#int>.

B. Submitting Comments

Please include Docket ID **NRC-2013-0073** in the subject line of your comment submission, in order to ensure that the NRC is able to make your comment submission available to the public in this docket.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <http://www.regulations.gov> as well as entering the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Background Information

The NRC staff developed draft JLD-ISG-2013-01 to provide guidance acceptable to the NRC staff for reevaluating flooding hazards due to dam failure for the purpose of responding to enclosure 2 of the March 12, 2012, Request for Information (ADAMS Accession No. ML12053A340). This ISG is being issued in draft form for public comment to involve the public in development of this guidance.

On March 11, 2011, a magnitude 9.0 earthquake struck off the coast of the Japanese island of Honshu. The earthquake resulted in a large tsunami, estimated to have exceeded 14 meters (45 feet) in height that inundated the Fukushima Dai-ichi nuclear power plant site. The earthquake and tsunami produced widespread devastation across northeastern Japan and significantly affected the infrastructure and industry in the northeastern coastal areas of Japan. When the earthquake occurred, Fukushima Dai-ichi Units 1, 2, and 3, were in operation and Units 4, 5, and 6, were shut down for routine refueling and maintenance activities. The Unit 4 reactor fuel was offloaded to the Unit 4 spent fuel pool. Following the earthquake, the three operating units automatically shut down and offsite power was lost to the entire facility. The emergency diesel generators started at all six units providing alternating current (ac) electrical power to critical systems at each unit. The facility response to the earthquake appears to have

been normal. Approximately 40 minutes following the earthquake and shutdown of the operating units, however, the first large tsunami wave inundated the site, followed by additional waves. The tsunami caused extensive damage to site facilities and resulted in a complete loss of all alternating current electrical power at Units 1 through 5, a condition known as station blackout. In addition, all direct current electrical power was lost early in the event on Units 1 and 2 and, after some period of time, at the other units. Unit 6 retained the function of one air-cooled EDG. Despite their actions, the operators lost the ability to cool the fuel in the Unit 1 reactor after several hours, in the Unit 2 reactor after about 70 hours, and in the Unit 3 reactor after about 36 hours, resulting in damage to the nuclear fuel shortly after the loss of cooling capabilities.

Following the events at the Fukushima Dai-ichi nuclear power plant, the NRC established a senior-level agency task force referred to as the Near-Term Task Force (NTTF). The NTTF was tasked with conducting a systematic and methodical review of the NRC's regulations and processes, and determining if the agency should make additional improvements to these programs in light of the events at Fukushima Dai-ichi. As a result of this review, the NTTF developed a comprehensive set of recommendations, documented in SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," dated July 12, 2011 (ADAMS Accession No. ML11186A950). These recommendations were enhanced by the NRC staff following interactions with stakeholders. Documentation of the staff's efforts is contained in SECY-11-0124, "Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report," dated September 9, 2011 (ADAMS Accession No. ML11245A158) and SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," dated October 3, 2011 (ADAMS Accession No. ML11272A111).

As directed by the Commission's Staff Requirement Memorandum (SRM) for SECY-11-0093 (ADAMS Accession No. ML112310021), the NRC staff reviewed the NTTF recommendations within the context of the NRC's existing regulatory framework and considered the various regulatory vehicles available to the NRC to implement the recommendations. SECY-11-0124 and SECY-11-0137 established the staff's prioritization of the recommendations based upon the potential for each recommendation to enhance safety.

As part of the SRM for SECY-11-0124, dated October 18, 2011, the Commission approved the staff's proposed actions, including the development of three information requests under 10 CFR 50.54(f). The information collected would be used to support the NRC staff's evaluation of whether further regulatory action was needed in the areas of seismic and flooding design, and emergency preparedness.

In addition to Commission direction, the Consolidated Appropriations Act, Public Law 112-074, was signed into law on December 23, 2011. Section 402 of the law directs the NRC to require licensees to reevaluate their design basis for external hazards.

In response to the aforementioned Commission and Congressional direction, the NRC issued a request for information to all power reactor licensees and holders of construction permits under 10 CFR Part 50 on March 12, 2012. The March 12, 2012, letter includes a request that licensees reevaluate flooding hazards at nuclear power plant sites using updated flooding hazard information and present day regulatory guidance and methodologies. The letter also requests the comparison of the reevaluated hazard to the current design basis at the site for each potential flood mechanism. If the reevaluated flood hazard at a site is not bounded by the current design basis, licensees are requested to perform an Integrated Assessment. The Integrated Assessment will evaluate the total plant response to the flood hazard, considering multiple and diverse capabilities such as physical barriers, temporary protective measures, and operational procedures. The NRC staff will review the licensees' responses to this request for

information and determine whether regulatory actions are necessary to provide additional protection against flooding.

It should be noted that the NRC requires nuclear power plants to protect against very unlikely flooding hazards. This guidance focuses on developing potential dam failure scenarios that nuclear power plants have to protect against. This guidance should in no way be construed as appropriate for designing, regulating, operating, or maintaining a dam. Such guidance has been developed by the appropriate responsible agency that designs, regulates, operates, or maintains the dam(s) of interest. Although this ISG attempts to be consistent with best practices and guidance developed by other federal and state agencies, there may be differences. In some cases, the differences between this ISG and the guidance developed by other agencies may be due to differences in regulatory responsibilities.

PROPOSED ACTION

By this action, the NRC is requesting public comments on draft JLD-ISG-2013-01. This draft JLD-ISG provides guidance acceptable to the NRC staff for reevaluating flooding hazards due to dam failure for the purpose of responding to enclosure 2 of the information request. The NRC staff will make a final determination regarding issuance of the JLD-ISG after it considers any public comments received in response to this request.

Dated at Rockville, Maryland, this 17th day of April, 2013.

FOR THE NUCLEAR REGULATORY COMMISSION.

David L. Skeen, Director
Japan Lessons-Learned Project Directorate
Office of Nuclear Reactor Regulation

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